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Waitaki/Mackenzie Visitor Survey 2020

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Abstract

This report presents the findings from a 2020 survey of visitors to tourist attractions in Waitaki and Mackenzie districts. COVID-19 cancelled fieldwork before data collection was complete. The limited data indicate that most visitors tend to visit a number of tourist attractions in the Waitaki/Mackenzie area and make substantial expenditures associated with these attractions. No single tourist attraction was a strong attractant to visitors, the large majority of whom would have visited the districts in the absence of the attractions at which they were invited to complete the survey.

Keywords: Tourist attractions, tourism spending, economic attribution model, Mackenzie District, Waitaki District

Acknowledgements

This project benefitted immensely from the contributions of others. We wish to thank the following people for their generosity and assistance. Waitaki District Council and Tourism Waitaki for their guidance and support. Operators at Oamaru Blue Penguin Colony, Dark Sky Project at Tekapo, Vanished World Centre, and Kurow Museum and Information Centre who assisted with the distribution of survey cards. Lincoln University colleagues who peer reviewed the survey instrument. Dr Sally Driml, University of Queensland, for peer review of the survey instrument and the economic attribution model. Dr Yvonne Mathews, University of Waikato/Waikato Regional Council, for structuring the interactive mapping inputs. Dr Bentry Mkwara for GIS mapping assistance. Kathy Kise and Yifan Cheng for fieldwork assistance. The project was funded by the Lincoln University Centre of Excellence, Sustainable Tourism for Regions Landscapes and Communities.

Table of Contents

List of Figures

List of Tables

Executive Summary

Data from a survey of visitors to tourist attractions in Waitaki and Mackenzie Districts from January to March 2020 describes visitors' use and spending attributable to the Waitaki Whitestone Geopark, Oamaru Blue Penguin Colony and Dark Sky Project, and its economic significance to the local economies. This research was part of a broader project aimed at assessing the impact and effectiveness of different forms of public investment in visitor attractions on local and regional economic development in the Waitaki and Mackenzie Districts. COVID-19 cancelled fieldwork before data collection was complete.

No single tourist attraction is a major drawcard–86% of respondents would have visited without the attraction where they were intercepted.

Three related measures of spending are assessed:

(i) **Tourist attraction (TA) associated expenditure**: All expenditure by visitors over the time spent Waitaki and Mackenzie area.

(ii) **TA attributed expenditure**: Expenditure, which is closely dependent on the tourist attraction.

(iii) **TA substitutable expenditure**: This is all expenditure by a subset of visitors who would not have travelled to the Waitaki/Mackenzie area if the tourist attraction were not available.

The average TA associated expenditure per visitor per visit was $299 for Waitaki District and $444 for Mackenzie District. The difference in expenditure between the two districts is not statistically significant.

Per-capita TA attributed expenditure for all tourist attractions ($464) is very similar to TA associated expenditure ($542). Only 36% of respondents were members of the TA attributed expenditure category. Insufficient data precluded estimation of TA substitutable expenditure. It was not possible to estimate expenditure associated with each tourist attraction due to limited data.

Results support further investigation of visitors' spending attributable to different attractions, which would help to guide councils and central government in identifying the right mix of tourist projects and initiatives to promote, support and invest in.

1. Introduction

Waitaki and Mackenzie districts (Figure 1) are endowed with many iconic tourist attractions. Visitors are attracted to the Waitaki District by its unique geology, cultural and historic heritage. It is home to the Waitaki Whitestone Geopark. The main town of Oamaru is a tourism destination in its own right, with attractions such as the Blue Penguin Colony and the Victorian Precinct. The town is the Steampunk Capital of the World, attracting thousands of visitors with its annual steampunk festival[1]. It also acts as a gateway to the Waitaki River and hydro lakes. In 2018, there were 1.7m annual visitors to the Waitaki District, of whom 83% were domestic[2].

The Mackenzie District is popular for astral tourism including the Dark Sky Project at Tekapo. It is also home to Aoraki/Mount Cook National Park, with its inspiring alpine landscape extending over 700 km^2, with headquarters at Aoraki/Mt Cook Village. Aoraki/Mt Cook is New Zealand's highest mountain, rising 3,754 metres above sea level, and the park includes most New Zealand peaks over 3,000 metres high.

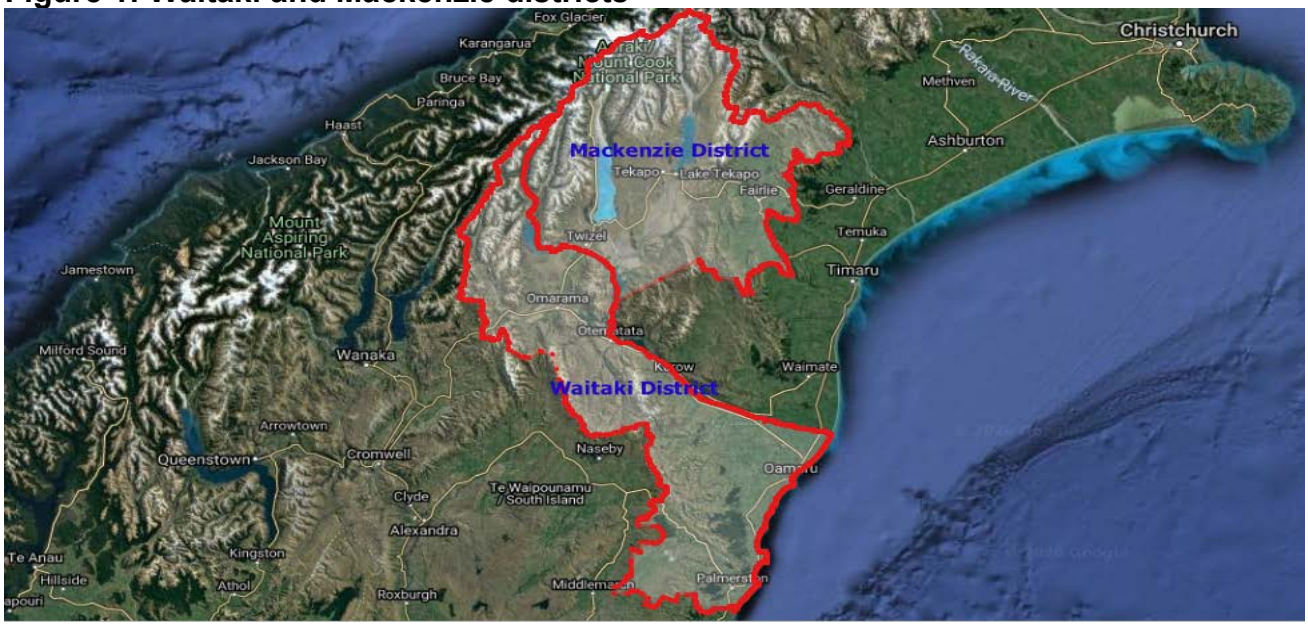
The Waitaki and Mackenzie districts host the Alps 2 Ocean (A2O) Cycle Trail, New Zealand's longest continuous cycle trail. In 2018, approximately 2.0m tourists visited the Mackenzie District and 45% were from overseas[3].

Together, international and domestic visitors are estimated to have spent $163 million in Waitaki District and $184 million in Mackenzie District in the year ended June 2020 (MBIE, 2020).

There is anecdotal evidence that many communities in the Waitaki and Mackenzie districts have benefitted from a number of new businesses established to support these tourist attractions, and existing business revitalisation. A previous research project found that regeneration of the Victorian Precinct of Oamaru, the Oamaru Blue Penguin Colony, the Waitaki Whitestone Geopark and A2O Cycle Trail were among the key catalysts for revitalising the town of Oamaru after a period of marked economic decline and population loss in the 1980s (Taylor, Mackay, Johnston, & Perkins, 2019).

[1] https://waitakinz.com/steampunk-nz-festival/
[2] https://www.christchurchnz.com/media/0ohna4hz/dsimmons_cnz_tourism_webinar_post_covid19.pdf
[3] ibid

Figure 1: Waitaki and Mackenzie districts



The town of Tekapo in Mackenzie District is another example of revitalisation, where the Dark Sky Project is among the key catalysts to the growth in visitor numbers and business opportunities. Pre-COVID-19, the town was struggling to keep pace with visitors' demand for infrastructure, including accommodation and public facilities.

The role of attractions in drawing and retaining visitors to regions is acknowledged by the Government in the recently launched Tourism Investment Attraction Programme (NZTE, 2019). However, the evidential basis on the extent to which public sector support for and investment in tourist attractions influence tourist and expenditure flows to local economies is limited. There are gaps in knowledge on tourism expenditure attributable to different tourist attractions.

This report presents the results of a survey of visitors to Waitaki and Mackenzie districts carried out from January to March 2020. It was designed to capture the level of visitors' use of attractions and tourism expenditure that is attributable to different tourist attractions in the area.

This survey was part of a broader project aimed at assessing the impact and effectiveness of different forms of public investment in visitor attractions on local and regional economic development involving four key tourist attractions in Waitaki and Mackenzie Districts. These are:

(i) The Waitaki Whitestone Geopark (Moeraki Boulders, Elephant Rocks and Clay Cliffs)
(ii) The Oamaru Blue Penguin Colony
(iii) The Dark Sky Project (Tekapo)
(iv) A2O Cycle Trail (the results of a survey of A2O users are reported separately (Mkwara, Simmons, & Kerr, 2020)).

The Waitaki Whitestone Geopark covers 7,200 square kilometres and includes 101 geological sites designated for their local, national and international significance. It is managed by the Waitaki Whitestone Geopark Trust. Submissions are underway to advance it into New Zealand's first United Nations Educational, Scientific and Cultural Organization (UNESCO) Global Geopark (Waitaki District Council, 2018). Our survey included the three most significant geological sites (Moeraki Boulders, Elephant Rocks and Clay Cliffs). There are no estimates of annual visitors to the Geopark.

The Oamaru Blue Penguin Colony opened in 1992 and offers roosting and breeding areas for the blue penguins, which were threatened by extinction in the early 1990s[4]. The colony is managed by Tourism Waitaki and is Oamaru's largest tourist attraction. Pre-COVID-19, over 70,000 people visited the colony each year and 88% were overseas visitors[5]. It has the added benefit of encouraging people to stay overnight in order to enjoy the evening viewing of penguins returning from the sea at dusk.

The Dark Sky Project (Formerly Earth & Sky Stargazing) is a Ngāi Tahu astro-tourism initiative founded in 2004. Pre-COVID-19, it was estimated to host over 40,000 visitors each year on a range of exclusive stargazing experiences (Ngāi Tahu Tourism, 2020) and 72% were overseas visitors (International Dark-Sky Association, 2017). Like the penguin colony, the Dark Sky Project has the benefit of encouraging people to stay overnight in order to enjoy night sky viewing.

2 Objectives

This research aimed to:

(i) Describe visitors' use of key tourist attractions in Waitaki and Mackenzie districts;
(ii) Estimate spending attributable to Waitaki Whitestone Geopark, Oamaru Blue Penguin Colony and Dark Sky Project; and
(iii) Estimate the significance of spending by visitors to these attractions to the local economies.

[4] https://www.penguins.co.nz/about-us/conservation
[5] https://www.waitaki.govt.nz/our-council/news-and-public-notices/news/Pages/some-facts-about-tourism-waitaki.aspx

3 Methodology

This section outlines methods used, including survey design, data collection and data analysis.

3.1 Survey design

An online survey collected data from a large number of visitors to tourist attractions. It allowed more in-depth questioning than field intercepts and was more cost-effective. The survey was developed based on previous practice, including the Queensland national park tourist expenditure survey by Driml, Brown, Ballantyne, Pegg, and Scott (2011). It was available in English, Mandarin, Japanese and German.

The online survey included questions on user profiles, visits to tourist attractions, and the importance of these attractions to travel decisions, logistics and spending. The economic component of the questionnaire included a request for respondents to indicate how much money they had spent on package holidays as well as their spending in the area (delineated by a map) on:

- travel;
- accommodation;
- food and drinks;
- activities and trips;
- other (equipment, souvenirs etc.).

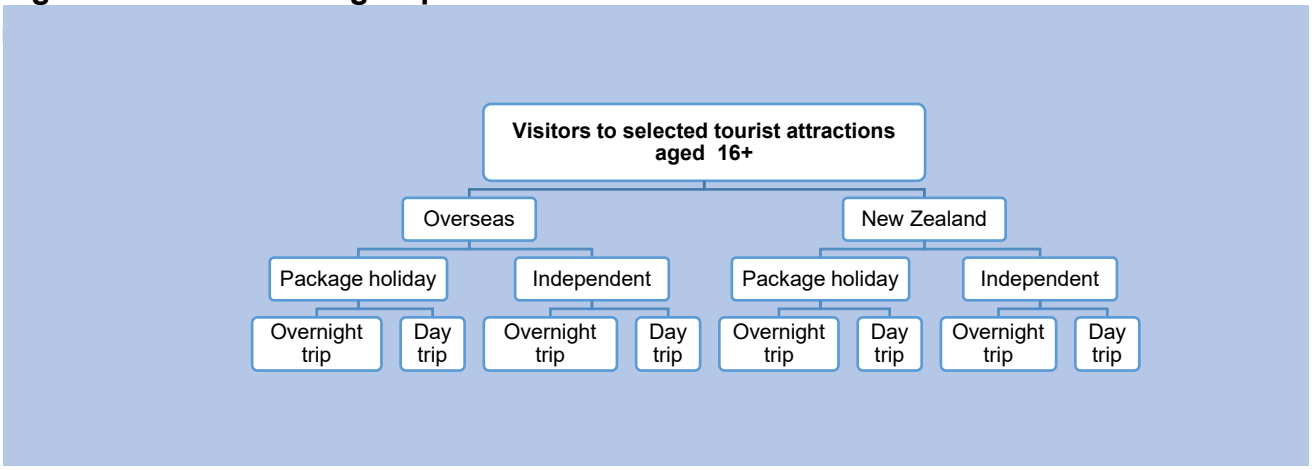
Respondents were asked to specify whether their answers were for themselves or their group, and the time period they applied to. Questions mirrored the classification of tourism characteristic industries and tourism related industries defined in the New Zealand Tourism Satellite Account (TSA)[6]. The online questionnaire used Qualtrics software. The full survey appears in Appendix 1. The Lincoln University Human Subjects Ethics Committee approved the survey.

3.2 Sampling design

It was anticipated that tourist attraction use and spending by visitors might vary for sub-groups e.g. overseas versus New Zealand residents, package holiday versus independent, and overnight and day trips (Figure 2).

[6] https://www.stats.govt.nz/information-releases/tourism-satellite-account-2018

Figure 2: Visitors' sub-groups



Previous research on tourism expenditure suggests that random sampling with minimum samples of 30 to 40 participants for each subgroup of interest may meet the criteria for within-group representativeness (e.g. Driml et al., 2011). This would require a minimum sample of 320 tourists per attraction if visitors were evenly distributed across sub-groups. Annual estimates of visitors and the proportion of overseas versus New Zealand residents are available only for Oamaru Blue Penguin Colony and the Dark Sky Project. However, data on the proportions of visitors who are on package holidays and who are travelling independently do not exist. Due to these limitations, it was difficult to design an appropriate sampling frame. Therefore, we invited as many tourists as possible to complete the survey.

3.3 Data collection

Respondents were invited to participate in the online survey through (i) intercepts and (ii) survey invitation cards distributed by operators at Oamaru Blue Penguin Colony, Dark Sky Project, Vanished World Centre, and Kurow Museum and Information Centre. Survey invitation through intercepts was the primary approach used for the Waitaki Whitestone Geopark, whereas both approaches were used for the Oamaru Blue Penguin Colony and the Dark Sky Project.

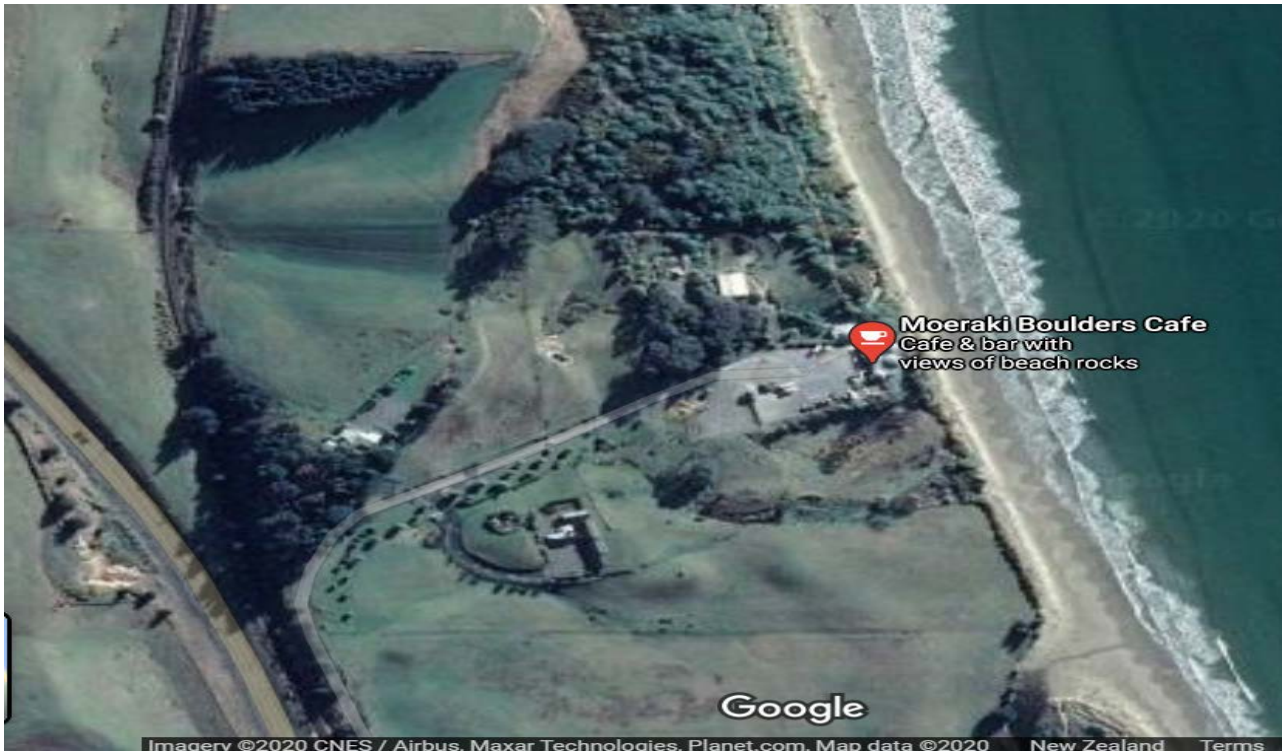
Survey invitation through intercepts

Visitors were intercepted at tourist attractions and briefed about the online survey prior to a request to provide their email address for online survey distribution. Assurance was given that participation in both the intercept survey and the subsequent online survey was voluntary and that completing the survey and providing an email address did not in any way obligate them to complete the online survey.

The survey invitations by intercepts were carried out for a total of eleven days (mid-January to 1 March). Twelve more survey invitation days were planned for March and April (over the Easter holiday) but were not carried out due to COVID-19. The selection of survey invitation intercept sites was informed by stakeholder consultation and preliminary field observations.

Moeraki Boulders had the highest flow of visitors. However, it was a short stopover for most visitors, typically travelling between Dunedin and Christchurch. Consequently, many visitors

were unwilling to be intercepted, and the time to engage with those intercepted was very limited. Preliminary field observations showed that visitors were more likely to respond at the car park than at the beach. Therefore, survey invitation intercepts were mainly carried out at the Moeraki Boulders café car park. The length of time survey distributors spent at the site varied from 2 to 6 hours.



Moeraki Boulders café car park

Moeraki Boulders

In contrast, at Elephant Rocks, visitor flow was generally lower, visitors seemed more relaxed, and this provided an opportunity to engage more with them. Intercepts were carried out inside the paddock. Visitors were approached either immediately after entry/before exit, or as visitors sat down to relax. The length of time survey distributors stayed at the site varied from 4 to 6 hours. The busiest times were typically from noon to 3 pm.

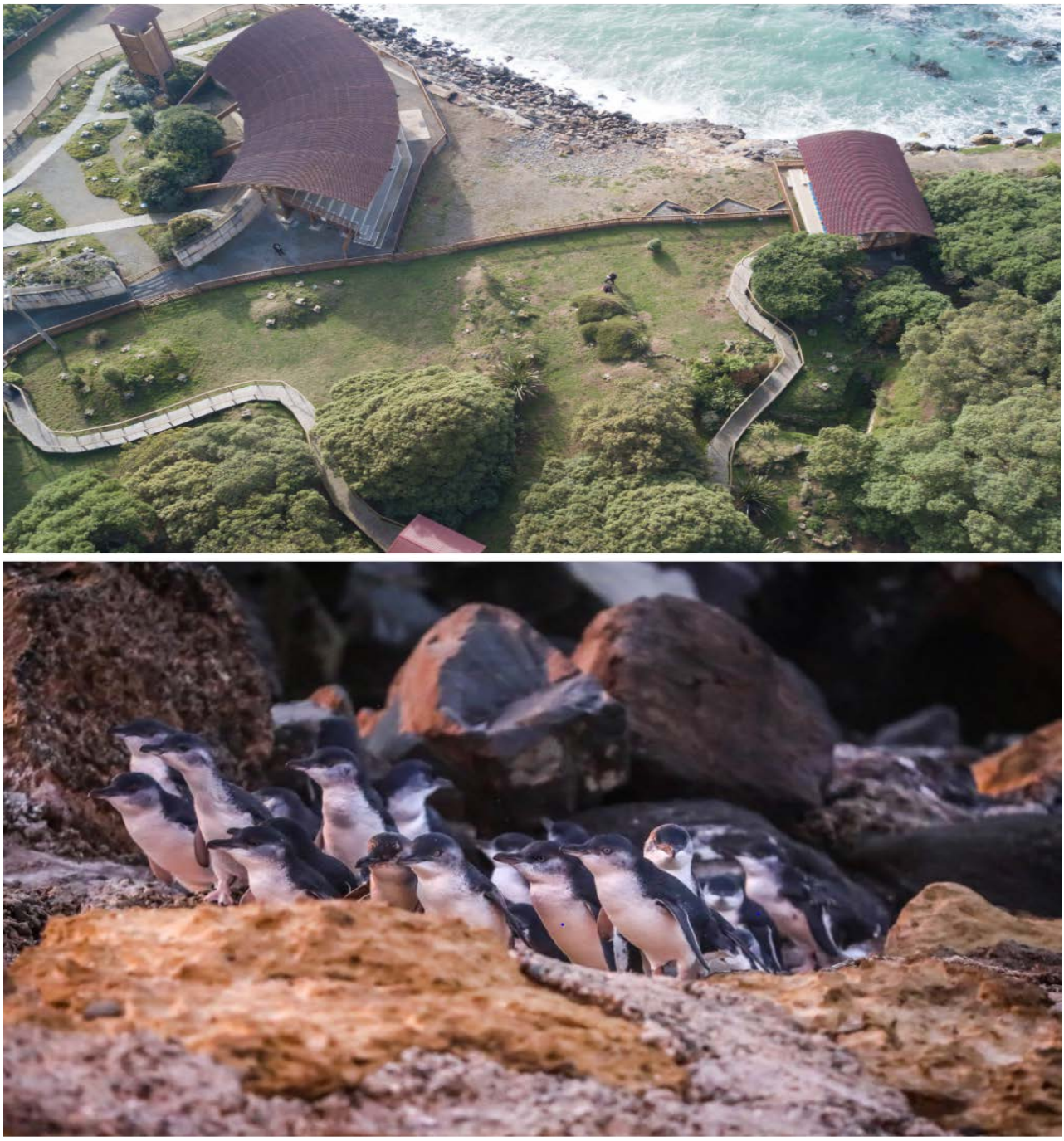
Elephant Rocks

Likewise, at Clay Cliffs, the flow of people was relatively low and the average time spent at the site was longer than at Moeraki Boulders. Many people were relaxed and willing to be stopped. Survey invitation intercepts were conducted at the public car park. The length of time survey distributors spent at the site varied from 4 to 6 hours. The busiest times were from 11 am to 4 pm.

Clay Cliffs' car park

Clay Cliffs

At the Oamaru Blue Penguin Colony, survey invitation by intercepts were carried out for 3 evenings from 26-28 February 2020. Operators introduced and briefed visitors about the survey at the stadium while they waited for penguins to arrive at the shore. Survey distributors recorded the email addresses of visitors who were willing to participate in the online survey. To avoid disrupting visitors' viewing experiences, email addresses were recorded for only 30 minutes each night, before the first penguin arrival.



Oamaru Blue Penguin Colony
Source: https://waitakinz.com/oamaru-blue-penguin-colony/

At the Dark Sky Project, survey invitation intercepts were carried out for 2 evenings from 2-3 March 2020. Survey distributors intercepted visitors at the foyer as they entered to register for departure to night sky viewing in two 30-minute periods each night [8-8.30 pm and 10-10.30 pm]. Most visitors were in a hurry to depart for night sky viewing and were unwilling to stop.

Operators confirmed that the number of visitors was very low compared to previous years due to COVID-19 travel restrictions. Pre-COVID-19, the Oamaru Blue Penguin Colony and the Darky Sky Project were primary drawcards for Chinese visitors, particularly during Chinese New Year, who were unable to visit during this survey period.

Table 1 shows the number of visitors invited to complete the online survey at each site.

Table 1: Survey invitation intercept sites

Site	Number of visitors intercepted
Oamaru Blue Penguin Colony	97
Dark Sky Project	46
Moeraki Boulders	190
Elephant Rocks	73
Clay Cliffs	81
Total	**487**

Dark Sky Project at Tekapo

Survey invitation through survey invitation cards

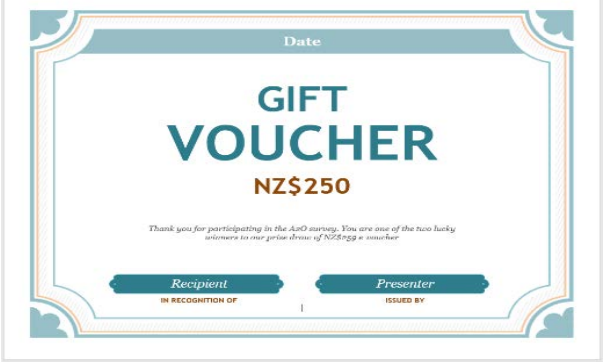
It was initially planned that survey invitations would be made through survey cards distributed by operators at Oamaru Blue Penguin Colony and Dark Sky Project.

Survey briefings with operators were carried out from December 2019 to mid-January 2020. Initially, to avoid disruptions to business operations, survey invitation cards were to be distributed to customers for only eight days across the summer season over selected sampling times and days (Appendix 2). Experience showed that this approach was restrictive. By the end of January, operators agreed to distribute survey invitation cards any time they had customers. Survey cards were distributed from January to March.

To incentivise participation, operators received bottles of wine and one lucky survey respondent got e-gift vouchers. Despite this, there was a very low response rate from operator-distributed survey invitation cards. Therefore, survey invitations by intercepts as described above were carried out to complement survey invitation by cards.

Incentives:

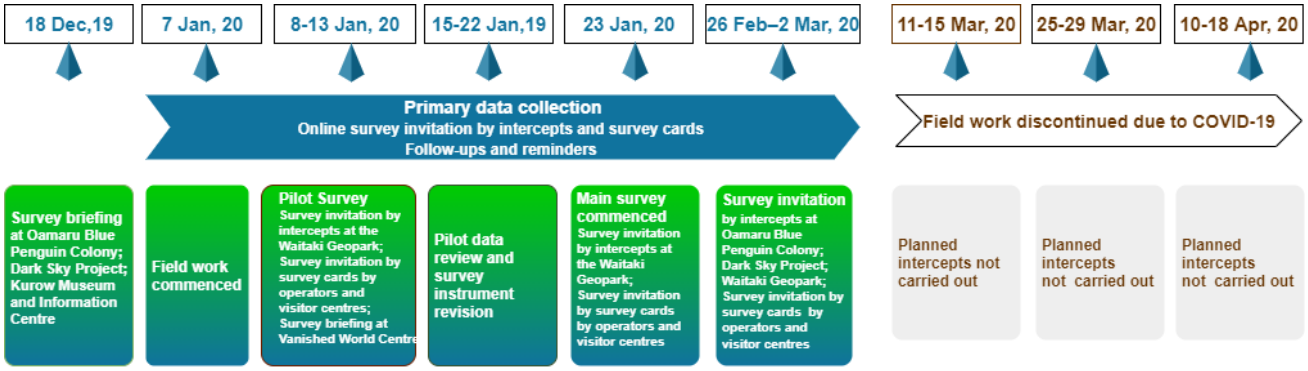
Bottles of wine for accommodation providers	A prize draw of $250 e-gift voucher at Kathmandu for respondents



Fieldwork key milestones

Fieldwork commenced in January 2020 and was expected to conclude in April 2020. However, it was discontinued on 2nd March 2020 due to COVID-19. Fieldwork key milestones are shown in Figure 3.

Figure 3: Fieldwork key milestones



3.4 Methods of data analysis

Descriptive statistics were used to analyse the data in terms of the means and deviations, and frequencies and percentages. For categorical data, Chi-squared tests of the hypothesis of differences between various groups of tourists were carried out. For continuous or ordinal data, normality tests were carried out objectively using a Shapiro-Wilk test, as well as subjectively by observing histograms and box plot outputs in Stata and R console. T-tests evaluated the significance of differences between group means. Where the assumption of normality was not met, the Kolmogorov–Smirnov (K-S) test was applied instead of the t-test. Mapping of visitors' home origins, start and end of their Waitaki/Mackenzie visit was carried out using a Geographic Information System (GIS). Sensitivity analysis of estimates of tourist expenditure was carried out using Monte Carlo simulation in R console.

3.4.1 Economic attribution model

In cases where there is more than one key tourist attraction, it can be valuable to assess the level of tourist spending that is directly attributable to specific tourist attractions.

An economic attribution model gauged the importance of each tourist attraction and the level of spending that is attributable to it. There are limited studies in this subject area. This project adapted the attribution model applied by Driml et al. (2011) to assess the economic significance of National Park tourism in Queensland, Australia.

Tourist attraction associated expenditure

The approach taken here counts total expenditure by all visitors to an attraction as a start point, which we term "tourist attraction associated expenditure". This measure does not gauge the impact on expenditure of the importance of an attraction to visitors (Driml et al., 2011), which is addressed by attribution and substitution expenditure estimates (e.g.Carlsen & Wood, 2004; Driml et al., 2011; Stoeckl, Smith, Newsome, & Lee, 2005).

Attribution expenditure: This is the proportion of all direct expenditure by visitors to a region/state/country that can be attributed to a specific attraction (Carlsen & Wood, 2004; Jones & Wood, 2008). Typically, researchers use a range of motivational, behavioural and importance measures from surveys to estimate the proportion of expenditure attributed directly to a tourist attraction. For instance, Carlsen and Wood (2004) use the following findings from the Southern Forest region in Australia to estimate attribution:

(i) 80% of respondents reported that 'natural environments' were the number one reason for visiting the region;
(ii) 90% of activities undertaken were nature-based;
(iii) 95% of visitors ranked forests as 'important' in attracting them to the region.

They conclude that 88% (an average of the three measures) of visitor expenditure could be attributed to the national parks and forests in the study area.

However, the concern with this approach is that while a visitor's choice of particular tourist activity and resulting expenditure could be highly motivated by the existence of a tourist attraction, it does not always follow that visitors would not have undertaken some other activity (and its associated expenditure) in that same region, in the absence of an attraction (Carlsen & Wood, 2004). For example, in the absence of the Oamaru Blue Penguin Colony, some visitors may still opt for alternative activities in the area and make expenditures associated with these activities.

Substitution expenditure: Some studies have focused on identifying additional expenditure in a region due to an attraction. That is the expenditure that would not have occurred in the study area if the opportunity to visit an attraction did not exist. This component has been termed the "substitution" effect (Carlsen & Wood, 2004). Substitution expenditure is identified using information from visitors on whether they would have substituted their visit to the region with a visit to another region, state or country if the attraction did not exist

We define and estimate variations of the attribution expenditure and substitution expenditure effects, which we term "TA attributed" and "TA substitutable" expenditures, respectively.

In this study:

TA attributed expenditure: This component of expenditure is defined as all spending by visitors who stated that the tourist attraction at which they were invited to complete the survey was "very important" to their travel and spending decisions. It captures expenditure that is closely dependent on an attraction in the face of possible alternatives that visitors could choose. We asked several questions about the significance of each attraction to visitors' travel decisions and preferences and used this information to classify respondents as TA attributed expenditure respondents, who met at least one of the criteria below:

Inclusion criterion 1
Tourists for whom an attraction was the only or main reason for visiting the Waitaki /Mackenzie area (Appendix 1, question 12)

Inclusion criterion 2
Tourists who indicated that the importance of an attraction to their trip was 70% or greater (Appendix 1, question 13)

TA substitutable expenditure: This is all spending by visitors who answered that they would not have travelled to the Waitaki or Mackenzie area if the opportunity to visit a specific tourist attraction was not available. TA substitutable expenditure is unambiguously due to the tourist attraction, defined as that spending that would not have been made in the area if the opportunity to visit the tourist attraction was not available. This component of expenditure is based on a hypothetical scenario of the tourist attraction not being open to visitors at the time of their travel to the area (Appendix 1; questions 14 and 15). Respondents in this category stated that they would have:

(i) Stayed at home;
(ii) Travelled outside the Waitaki/Mackenzie area

Steps used in this analysis

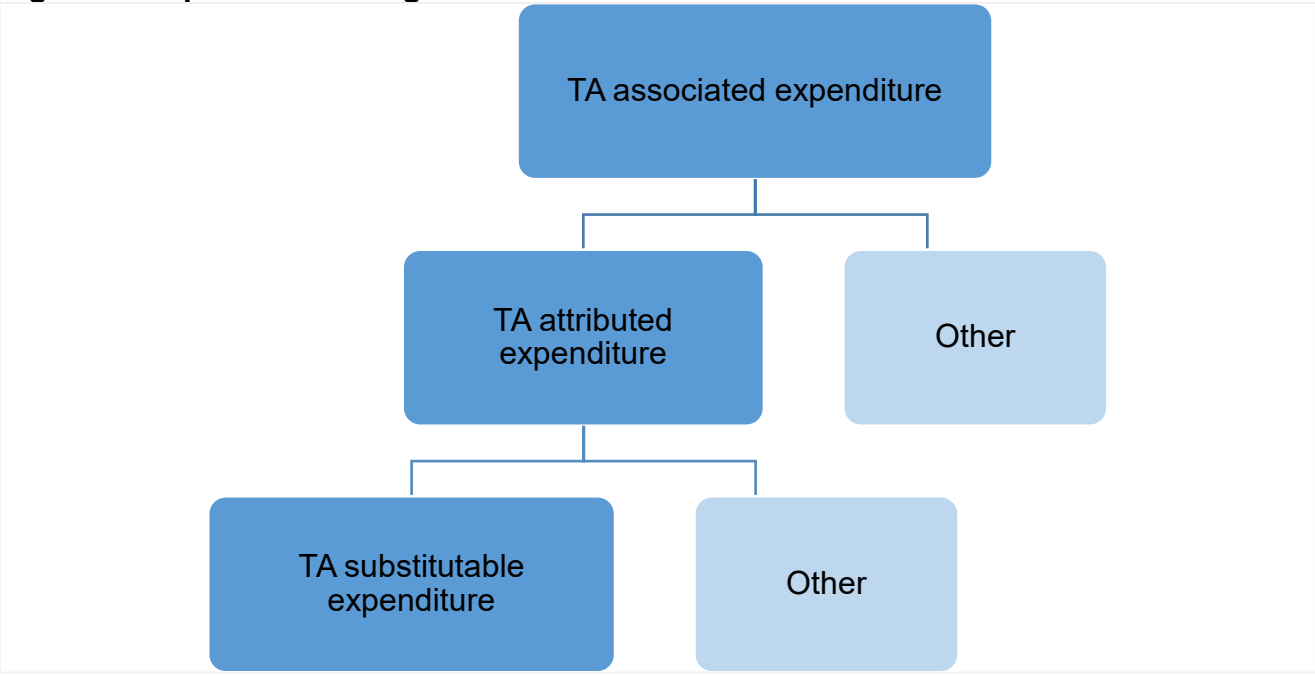
Our approach takes into account differences in spending by individuals in each category, outlined below.

Step 1: Identify spend for each individual

Step 2: Identify each individual's spending-generation category

All respondents' fall within the TA associated expenditure category. A subset of these respondents meet the criteria for membership of the TA attributed expenditure category. Likewise, a subset of TA attributed tourists meet the criteria for membership of the TA substitutable expenditure category (Figure 4).

Figure 4: Expenditure categories



Step 3: Calculate the mean and variance of spend for relevant groups

Average TA associated expenditure is;

$$TA\ associated\ expenditure/visitor/visit = \frac{\left(\sum_{i=1}^{n} \frac{Total\ spending\ per\ group\ visit_i}{Group\ Size_i}\right)}{n} = A \qquad (1)$$

Where, $Group\ Size$ is the number of people in respondent $i's$ travel party (aged at least 16 years) with whom expenses were shared and n is the number of tourists who provided information on expenditures in the area.

$$TA\ attributed\ expenditure/visitor/visit = \frac{\left(\sum_{j=1}^{J} \frac{Total\ spending\ per\ group\ visit_j}{Group\ Size_j}\right)}{J} = B \qquad (2)$$

Where, J includes only visitors in the TA attributed expenditure category

$$TA\ substitutable\ expenditure/visitor/visit = \frac{\left(\sum_{k=1}^{K} \frac{Total\ spending\ per\ group\ visit_k}{Group\ Size_k}\right)}{K} = C \qquad (3)$$

Where, K includes only visitors in the TA substitutable expenditure category and $K \leq J \leq n$

Step 4: Aggregate over groups to find total expenditure in each category

(i) Annual estimates of TA associated expenditure

$$TA\ associated\ expenditure = A \times N \qquad (4)$$

Where N is the annual number of visitors.

(ii) Annual estimates of TA attributed expenditure

$$TA\ attributed\ expenditure = B \times P_J \times N \qquad (5)$$

Where P_J is the proportion of visitors in the attributed expenditure category.

(iii)Annual estimates of TA substitutable expenditure

$$TA\ substitutable\ expenditure = C \times P_K \times N \qquad (6)$$

Where P_K is the proportion of visitors in the TA substitutable expenditure category.

Expenditure associated with tourist attractions

The interactive mapping feature (Figure 5) enabled respondents to provide detailed information on expenditure along their travel route. Interactive maps allowed participants to place markers of their purchases while in the Waitaki/Mackenzie area. Those on a tour package were asked how much they paid for their package and what this package constituted. Package tourists were also asked if they had spent any money additional to the cost of the tour package, which they recorded on the map.

Figure 5: Expenditure in the Waitaki/Mackenzie area

4 Results

4.1 Responses and data preparation

In total, 487 visitors were invited to participate in the online survey over three periods:

- Two days from 10 -12 January (n=67)
- Four days from 31 January – 5 February (n=133)
- Five days from 26 February to 1 March (n=287)

Of these, 158 respondents completed the survey, a response rate of 32%. Thirty-three usable responses came from survey cards distributed through operators and visitor centres and through intercepts (a few respondents who did not feel comfortable giving their emails were given a survey card instead). However, it was not possible to ascertain the response rate from survey cards since the total number of cards distributed is unknown. Operators and visitor centre staff were not asked to record the total number of cards distributed to their customers to avoid overburdening them. Altogether, there were 191 usable responses from the online survey (83% from invitations by intercepts and 17% from survey cards) (Table 2).

Table 2: Survey response

Tourist attraction	Intercept invitations	Response	Response rate	Survey cards response	Combined response: Invitations by intercepts and survey cards
Oamaru Blue Penguin Colony	97	41	42%	5	46
Dark Sky Project	46	6	13%	9	15
Moeraki Boulders	190	55	29%	7	62
Elephant Rocks	73	29	40%	5	34
Clay Cliffs	81	27	33%	1	28
Vanished World Centre, and Kurow Museum and Information Centre	-	-	-	6	6
Total	**487**	**158 (83%)**	**32%**	**33 (17%)**	**191**

Overall, the response rates for the Oamaru Blue Penguin Colony, Elephant Rocks and Clay Cliffs were within the range of 33% to 42%. The response rate was lower for Moeraki Boulders at 29% and was lowest for the Dark Sky Project (13%).

Survey data for the two recruitment methods were combined, checked for irregularities, coded for analysis using Microsoft Excel, and uploaded into Stata Version 14.2 and R Console for quantitative analysis.

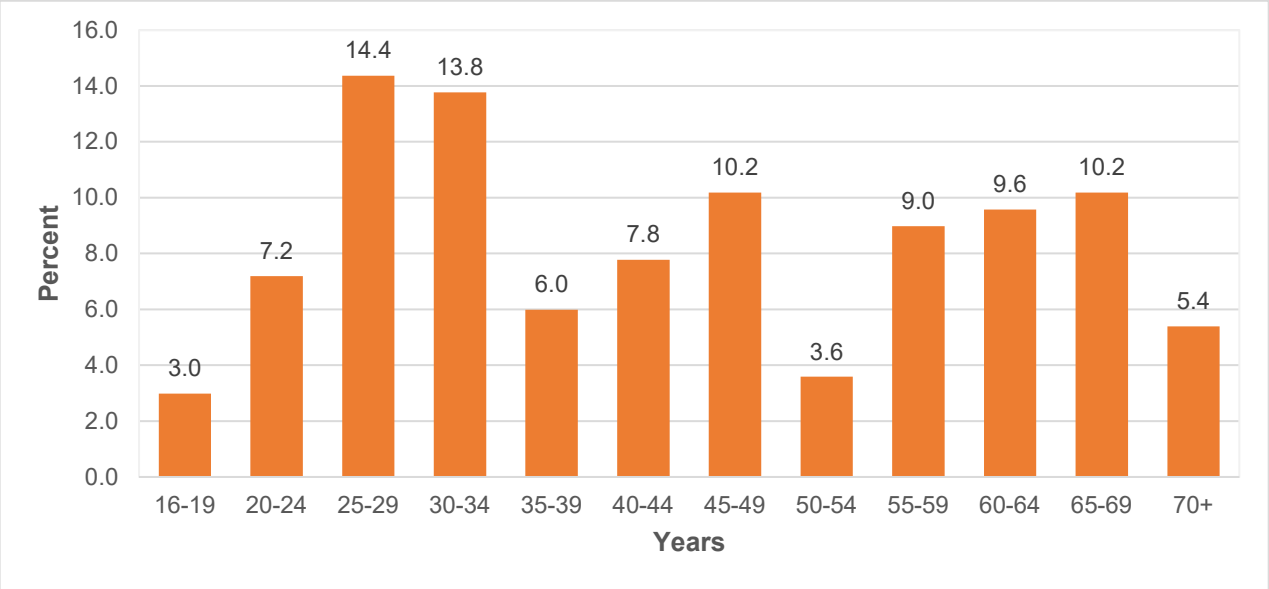
4.2 User profiles

The first and last sets of questions in the online survey were designed to identify attributes of tourist attraction visitors.

Age

As shown in Figure 6, the modal age was 25-29 years (14.4%, n=24), followed by those 30-34 years (13.8%, n=23), those aged 45-49 years, and then 65-69 years (10.2%, n=17 each).

Figure 6: Age (n=167)

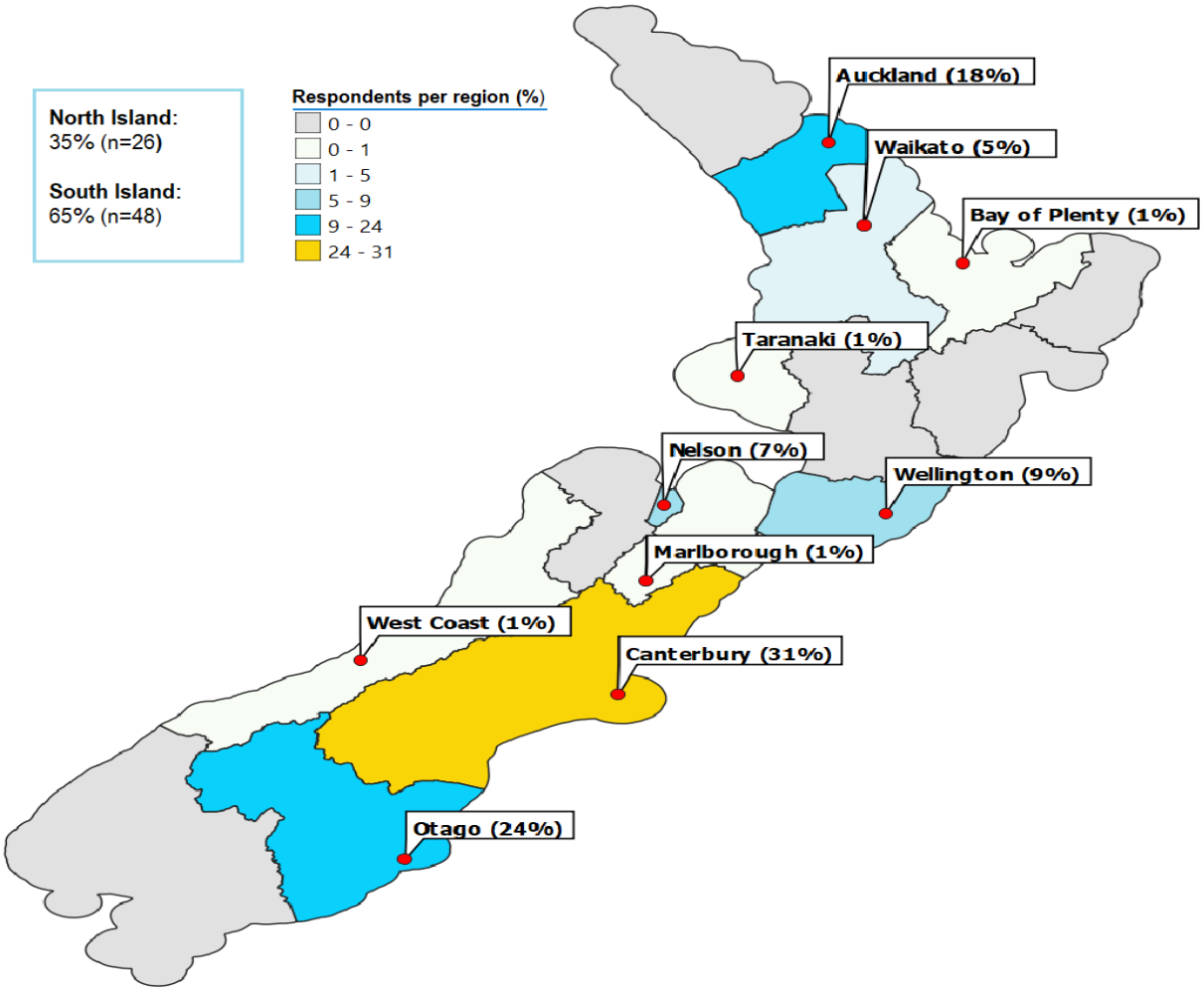


Gender and country of residence

A slightly higher percentage of males (51%, n=85) than females (49%, n=82) completed the survey.

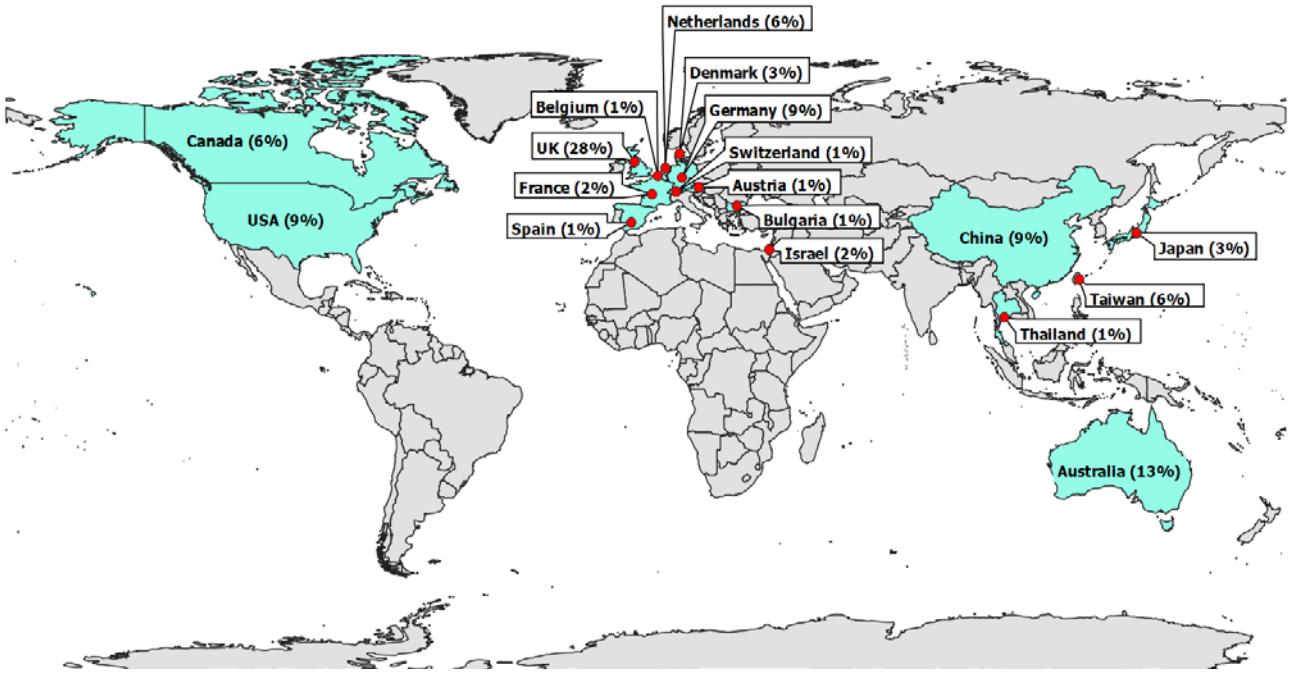
Thirty-nine percent of respondents were New Zealanders (n=74) and 61% were overseas visitors (n=117). Of the 74 New Zealand respondents, 35% (n=26) came from the North Island and 65% (n=48) from the South Island (Figure 7). The largest numbers of respondents were from Canterbury (31%), followed by Otago (24%) and Auckland (18%). Only 2 respondents (1% of the total sample) lived locally, in Oamaru.

Figure 7: New Zealand residents' home locations (n=74)



Out of 117 non-New Zealand respondents, 38% came from the United Kingdom (UK), 13% from Australia and 9% from each of the United States of America (USA), Germany and China (Figure 8).

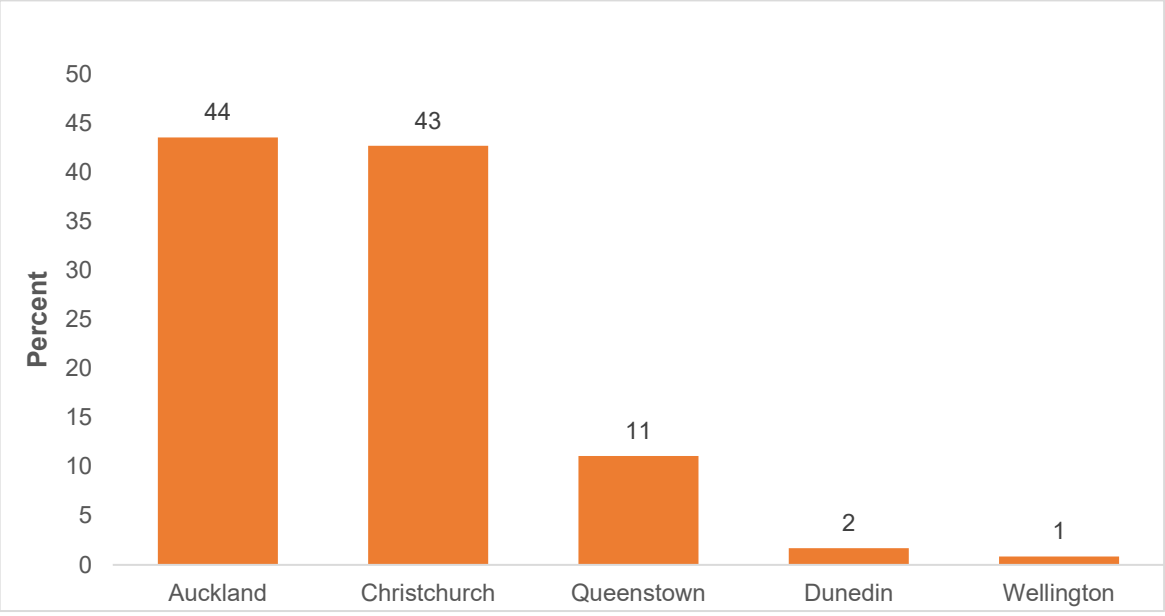
Figure 8: Overseas residents (n=117)



Where overseas visitors started their trip in New Zealand

The largest numbers of overseas respondents started their trip from Auckland (44%, n=51) followed by Christchurch (43%, n=50), and Queenstown (11%, n=13) (Figure 9).

Figure 9: Overseas visitors' trip origins in New Zealand (n=117)



4.3 Activity

Type of trip

About 82% (n=157) of respondents were on overnight trips. Only 108 respondents provided information on where they spent their nights in the area.

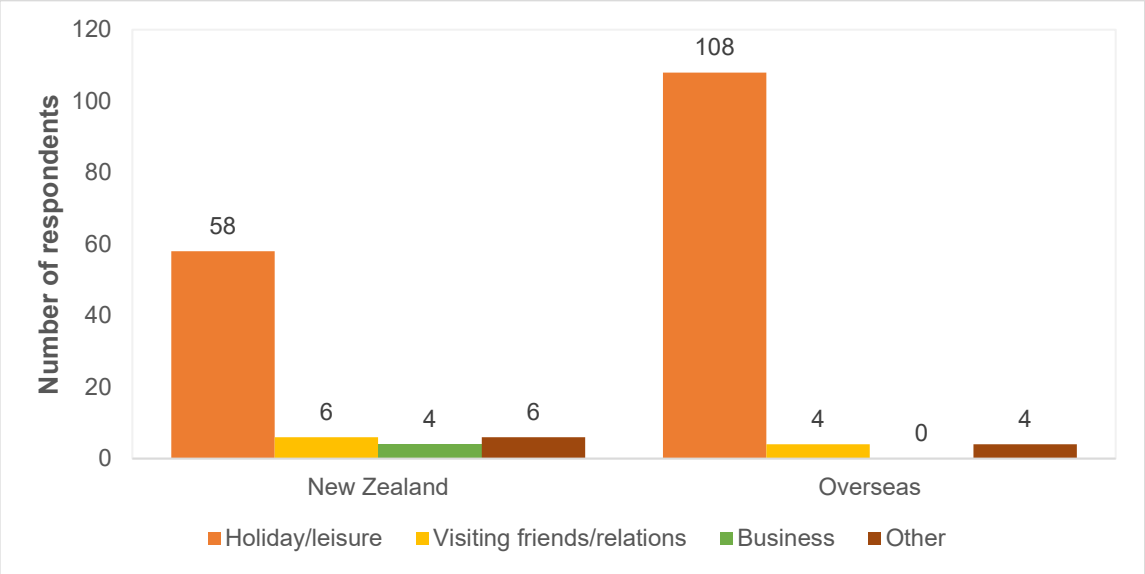
Nights spent in the area

Domestic visitors spent an average of 1.9 nights in Waitaki District and 2.6 nights in Mackenzie District. Whereas, overseas visitors spent an average of 1.7 nights in Waitaki District and 1.9 nights in Mackenzie District. Overall, more nights were spent in Mackenzie District, with an average of 2.1 nights compared to 1.8 nights in Waitaki District.

Trip purpose

Most respondents indicated that the reason for their visit to the area was for holiday/leisure (n=58 for New Zealand residents and n=108 for overseas visitors) (Figure 10).

Figure 10: Reasons for a visit to the Waitaki/Mackenzie area



Reason for a visit to selected tourist attractions

The largest numbers of respondents indicated that the visit to attractions where they were intercepted was just something they were doing (45%, n=86), or was one reason for their visit (30%, n=58). Very few said the attraction was the main reason for their visit (13%, n=24) (Figure 11).

Figure 11: Importance of visit to the attraction (n=191)

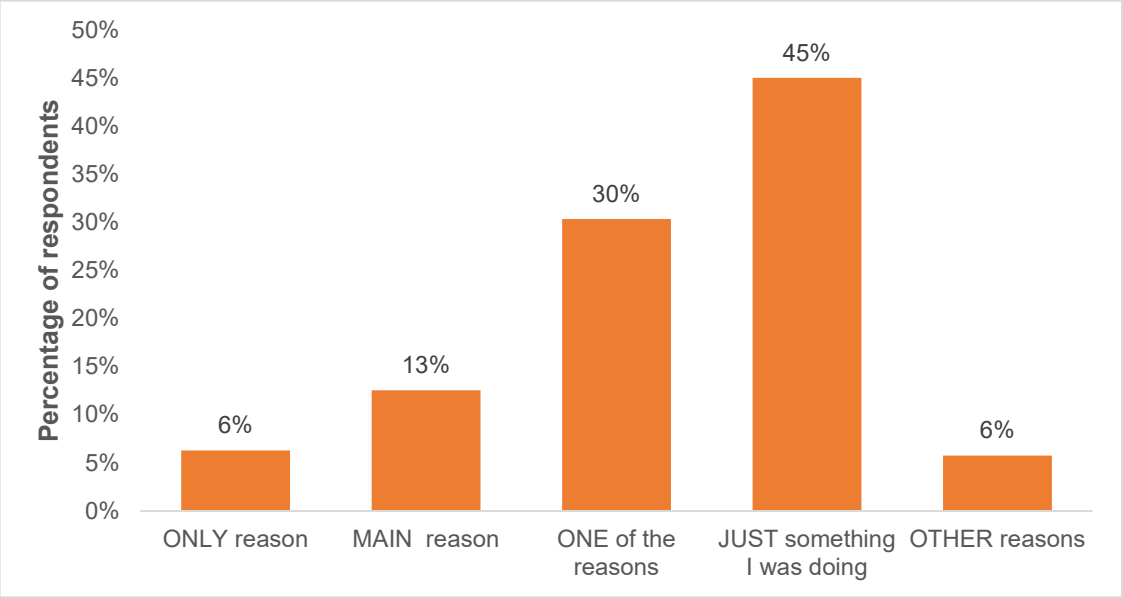
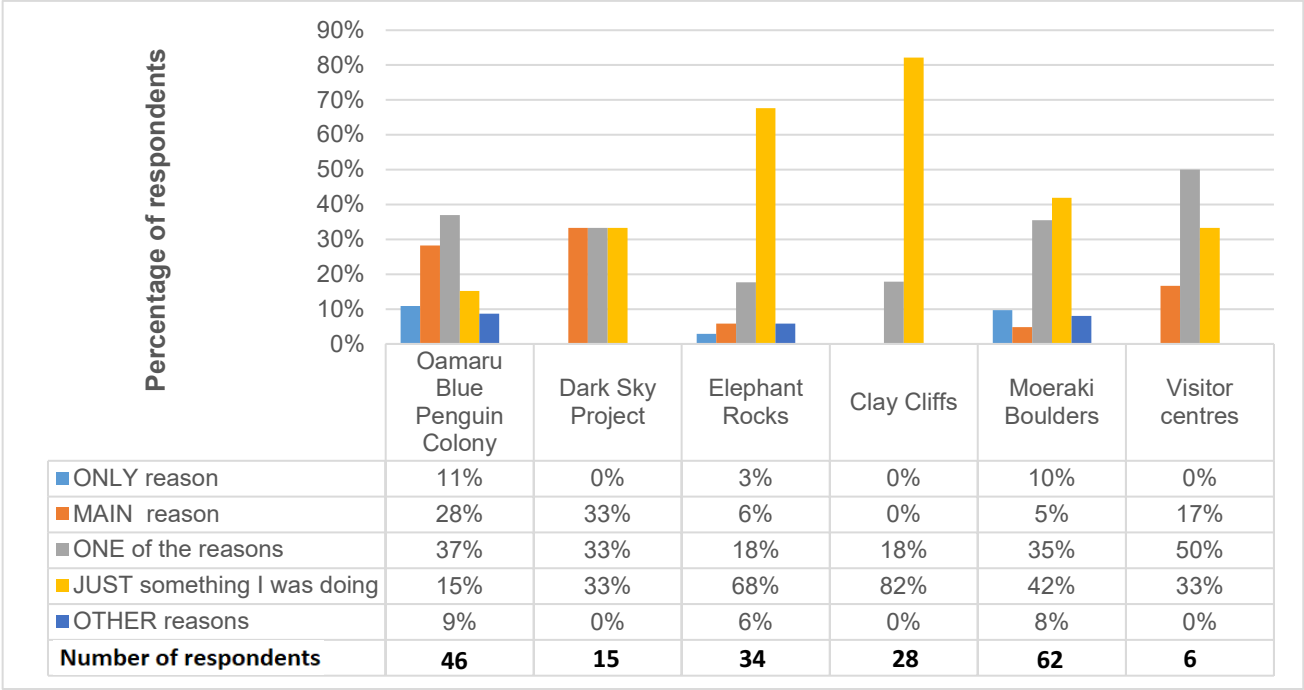


Figure 12 shows the importance of each tourist attraction to the visit. “Just something I was doing” was by far the most stated reason for respondents’ visits to Elephant Rocks (68%), Clay Cliffs (82%) and Moeraki Boulders (42%). This was followed by “one of the reasons” for Oamaru Blue Penguin Colony (37%) and Moeraki Boulders (35%). Altogether, the visit was the “ONLY or MAIN reason” for 39%, of respondents at Oamaru Blue Penguin Colony, 33% at Dark Sky Project, 9% at Elephant Rocks, no-one at Clay Cliffs, and 15% at Moeraki Boulders.

Figure 12: Intercept site role in visit (n=191)

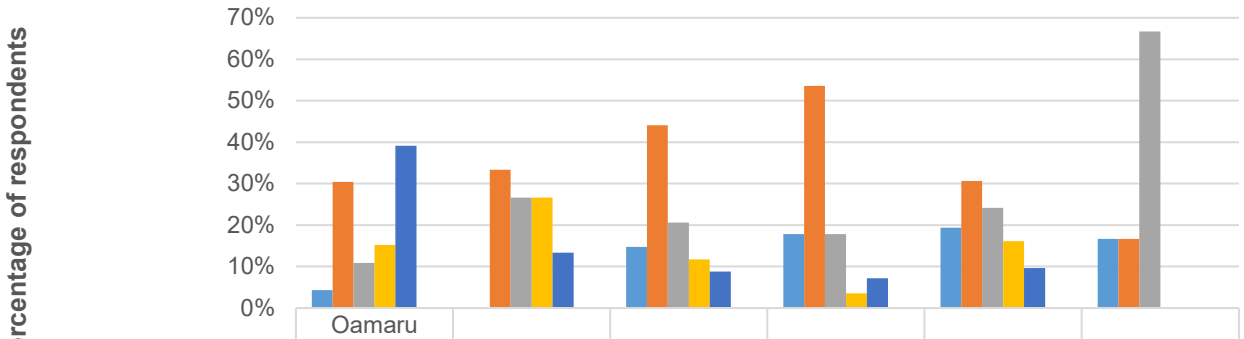


	Oamaru Blue Penguin Colony	Dark Sky Project	Elephant Rocks	Clay Cliffs	Moeraki Boulders	Visitor centres
ONLY reason	11%	0%	3%	0%	10%	0%
MAIN reason	28%	33%	6%	0%	5%	17%
ONE of the reasons	37%	33%	18%	18%	35%	50%
JUST something I was doing	15%	33%	68%	82%	42%	33%
OTHER reasons	9%	0%	6%	0%	8%	0%
Number of respondents	**46**	**15**	**34**	**28**	**62**	**6**

Importance of visit to selected tourist attractions to the trip to the area

The importance of the Oamaru Blue Penguin Colony for making the trip was rated 90% - 100% by 39% of respondents. The other attractions were not very highly rated. Altogether, the importance of visit was rated at least 50% of the reason for the visit by 65% of respondents at the Oamaru Blue Penguin Colony, 67% at the Dark Sky Project, 42% at Elephant Rocks, 29% at Clay Cliffs, and 50% at Moeraki Boulders (Figure 13).

Figure 13: The importance of tourist attraction to overall visit in the area (n=191)



	Oamaru Blue Penguin Colony	Dark Sky Project	Elephant Rocks	Clay Cliffs	Moeraki Boulders	Visitor centres
Less than 10%	4%	0%	15%	18%	19%	17%
10% up to < 50%	30%	33%	44%	54%	31%	17%
50% up to<70%	11%	27%	21%	18%	24%	67%
70% up to<90%	15%	27%	12%	4%	16%	0%
90% -100%	39%	13%	9%	7%	10%	0%
Number of respondents	**46**	**15**	**34**	**28**	**62**	**6**

Visiting the area if an attraction did not exist

Respondents were asked if they would still visit the Waitaki/Mackenzie area if the tourist attractions where they were invited to participate in the online survey did not exist. Only 14% (n=26) stated they would not have visited without the attractions. The 26 who answered that they would not have visited the Waitaki/Mackenzie area if their preferred attractions did not exist were asked what they would have done instead. Twenty-two (85%) said they would have travelled outside the Waitaki/Mackenzie area and four (15%) said they would have stayed at home.

Other activities and sites visited in the area

Other sites visited and activities undertaken were divided into (i) commercial activities, (ii) cultural or historic sites, and (iii) leisure and recreation sites or activities.

The most popular commercial activities were winery visits, Sir Edmund Hillary Alpine Centre and the Dark Sky Project (Table 3). The numbers are not additive since some respondents were involved in more than one activity.

Table 3: Commercial activities

Commercial activities	Number of respondents
Winery visit	19
Sir Edmund Hillary Alpine Centre	15
Dark Sky (Lake Tekapo)	14
Glacier Explorers	13
Big Sky Stargazing (Aoraki/Mt Cook)	11
Scenic flight (e.g., fixed wing, helicopter, glider)	10
Hot Tubs Omarama	7
Heli-hike	3
N/A	71

Steampunk HQ and the Aoraki / Mt Cook DOC Visitor Centre were the most popular cultural or historic sites, followed by Vanished World Centre (Table 4).

Table 4: Cultural or historic sites

Cultural or historic sites	Number of respondents
Steampunk HQ	45
Aoraki / Mt Cook DOC Visitor Centre	44
Vanished World Centre	19
Kurow Museum and Information Centre	3
Benmore Visitor Centre	1
N/A	55

The most visited leisure and recreation site or activity were walking tracks, which received almost twice as many visits as Moeraki Boulders (Table 5). The Oamaru Blue Penguin Colony was the third most popular, followed by swimming.

Table 5: Leisure and recreation sites or activities

Leisure and recreation sites or activities	Number of respondents
Walking tracks	94
Moeraki Boulders	49
Oamaru Blue Penguin Colony	41
Swimming	36
Elephant Rocks	19
Clay Cliffs	19
Fishing	10
A2O Cycle Trail	9
Quailburn Historic Woolshed	5
N/A	8

4.4 Travel route in Waitaki/Mackenzie area

Respondents were asked to provide detailed information about their travel while in the Waitaki/Mackenzie area using the interactive mapping features (Appendix 1, question 9). Information collected included where they entered the area, where they stopped for at least 10 minutes and where they planned to exit the area.

Starting and finishing points in the Waitaki/Mackenzie area

In all, 162 respondents provided latitude/longitude information on where they started and finished their trip in the Waitaki/Mackenzie area. Of these, 66 were domestic and 96 were overseas visitors. Table 6 shows visitors' starting and finishing points for the Waitaki/Mackenzie area. Some "starting" and "finishing" points are excluded because they were placed outside the study area. The largest number of respondents indicated starting their trip in the Waitaki/Mackenzie districts through Fairlie, followed by Palmerston and Oamaru. Fairlie and Palmerston were the most common finishing points.

Table 6: Starting and finishing points into Waitaki/Mackenzie districts

	Starting points			Finishing points		
Area	**Domestic**	**Overseas**	**Total**	**Domestic**	**Overseas**	**Total**
Oamaru	14 (23%)	18 (23%)	32 (23%)	16 (28%)	18 (23%)	34 (25%)
Palmerston	16 (26%)	23 (29%)	39 (28%)	12 (21%)	25 (31%)	37 (27%)
Fairlie	20 (33%)	27 (34%)	47 (34%)	17 (29%)	20 (25%)	37 (27%)
Omarama	7 (11%)	11 (14%)	18 (13%)	7 (12%)	16 (20%)	23 (17%)
Other	4 (7%)	0 (0%)	4 (3%)	6 (10%)	1 (1%)	7 (5%)
Total	**61 (100%)**	**79 (100%)**	**140 (100%)**	**58 (100%)**	**80 (100%)**	**138 (100%)**

4.5 Logistics

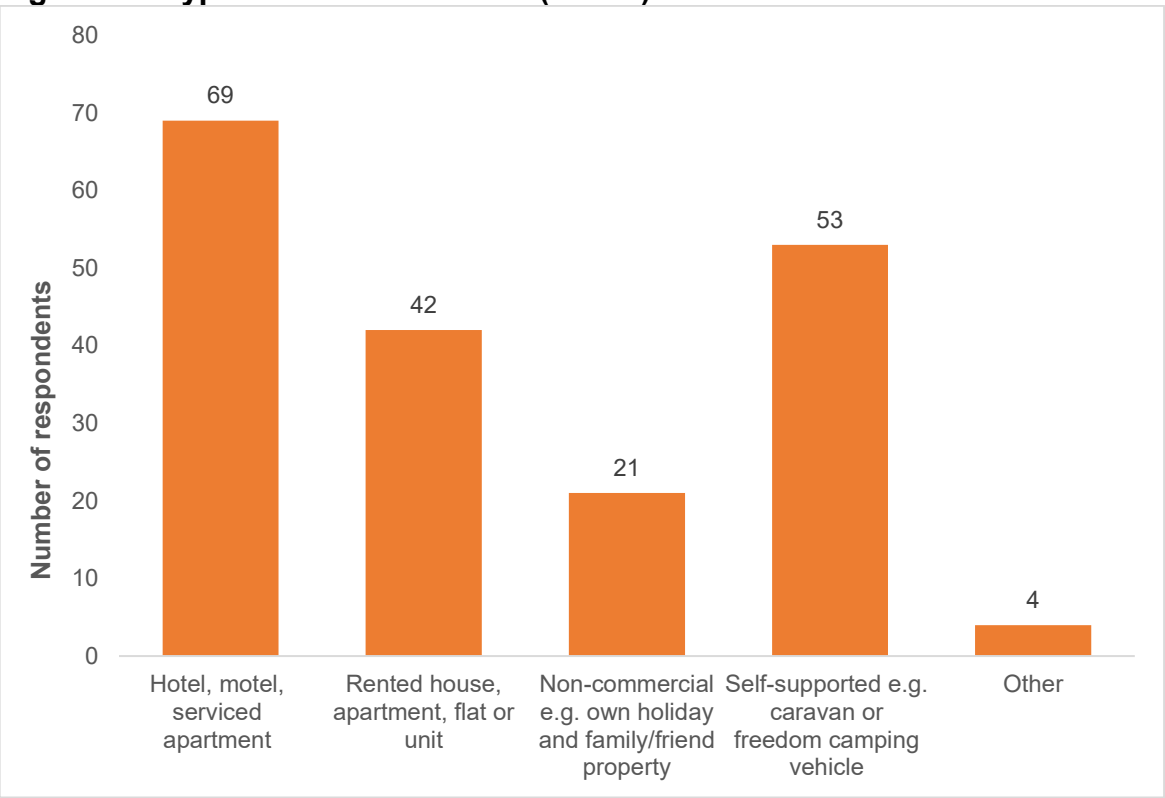
Support from tour operators

One hundred and eighty-six (186) respondents provided information on their Waitaki/Mackenzie travel logistics, of whom 90% (n=167) were independent travellers and 10% (n=19) were on a package holiday.

Type of accommodation

The type of accommodation used most frequently was hotel/motel/serviced apartment (Figure 14). Self-supported (e.g. caravan, freedom camping vehicle) and rented house/apartment/flat or unit were also common. Respondents frequently used multiple types of accommodation, so these responses are not additive

Figure 14: Type of accommodation (n=186)



Travel party

The average party size was 2.9 people, with 62% of New Zealand residents (n=71) travelling in a group of two or more people, compared to 43% for overseas residents (n=115). Overall, the proportion of respondents travelling alone is higher than expected. This could be due to people travelling alone being more likely to complete the survey than those travelling as a group.

4.6 Expenditure attributable to tourist attractions

Only 118 respondents provided data on their expenditures (Table 7). Of these, 49 were New Zealand residents and 69 were overseas residents. Out of 19 visitors who were on a packaged holiday, 15 provided information on how much they paid for their tour package and eight provided information on additional money they spent while in Waitaki and Mackenzie districts. Only expenditure additional to the tour package is included in the estimates in Tables 7-10. As defined in equations 1-3, expenditures are per-person. Due to small sample sizes, it was not possible to estimate the average per-person expenditure for each tourist attraction.

TA associated expenditure for Waitaki and Mackenzie districts

Table 7 shows the average TA associated expenditure per visitor per visit for Waitaki and Mackenzie districts combined.

Table 7: Average TA associated expenditure/visitor/visit (NZ$)

Expenditure category	Respondents	Number of respondents	Average expenditure/ visitor/visit (NZ$)	Std. Dev.	95% Conf. Interval (CI) for the mean	
Accommodation	New Zealand	26	$325	$285	[$209	$440]
	Overseas	55	$323	$411	[$212	$435]
	All respondents	**81**	**$324**	**$373**	**[$241**	**$406]**
Cafés/restaurants/ bars/takeaways	New Zealand	37	$178	$356	[$59	$297]
	Overseas	44	$132	$142	[$89	$176]
	All respondents	**81**	**$153**	**$261**	**[$95**	**$211]**
Groceries	All respondents	49	$75	$70	[$54	$95]
Non-food related shopping	All respondents	24	$105	$151	[$39	$170]
Fuel	All respondents	45	$91	$48	[$77	$106]
Activities	All respondents	43	$137	$222	[$69	$205]
Total expenditure	**New Zealand**	**49**	**$454**	**$514**	**[$306**	**$602]**
	Overseas	**69**	**$486**	**$603**	**[$341**	**$631]**
	All respondents	**118**	**$464**	**$550**	**[$363**	**$564]**

There are no significant differences between New Zealand and overseas residents in mean expenditure on accommodation, food and drink, and total spending.

TA attributed and TA substitutable expenditures

Out of 118 respondents who provided expenditure data, 42 (36%) were in the TA attributed expenditure category and fourteen (11%) were in the TA substitutable expenditure category (Table 8).

Table 8: TA attributed expenditure: Waitaki and Mackenzie Districts combined

Expenditure category	Number of respondents	Average expenditure/ visitor/visit (NZ$)	Std. Dev.	95% CI	
TA associated	118 (100%)	$464	$550	[$363	$564]
TA attributed	42 (36%)	$542	$471	[$395	$689]
TA substitutable	14 (11%)	Insufficient data			

Average TA attributed expenditure is very similar to average TA associated expenditure. The differences in expenditure are not statistically significant. It was not meaningful to estimate TA substitutable expenditure because of the very small sample size. Only 36% of visitors were members of the TA attributed expenditure category, implying that no single tourist attraction was a critical drawcard for most visitors.

TA associated expenditure for each district

Average TA associated expenditure per visitor per visit is $299 for Waitaki District and $444 for Mackenzie District (Table 9). Each sub-sample passed a normality test, so means were compared with a t-test. The difference in means is not statistically significant (p=0.0544). The total number of respondents is greater than 118 because some respondents made expenditures in both districts. Due to small sample sizes and potential sample biases, these levels of expenditure are indicative only.

Table 9: Average expenditure/visitor/visit (NZ$)

District	Number of respondents	Average expenditure/visitor/visit (NZ$)	Std. Dev.	95% CI	
Waitaki	88	$299	$370	[$220	$377]
Mackenzie	64	$444	$508	[$317	$571]
Difference		-$145		[-$293	$3]

TA associated expenditure for each district by expenditure category

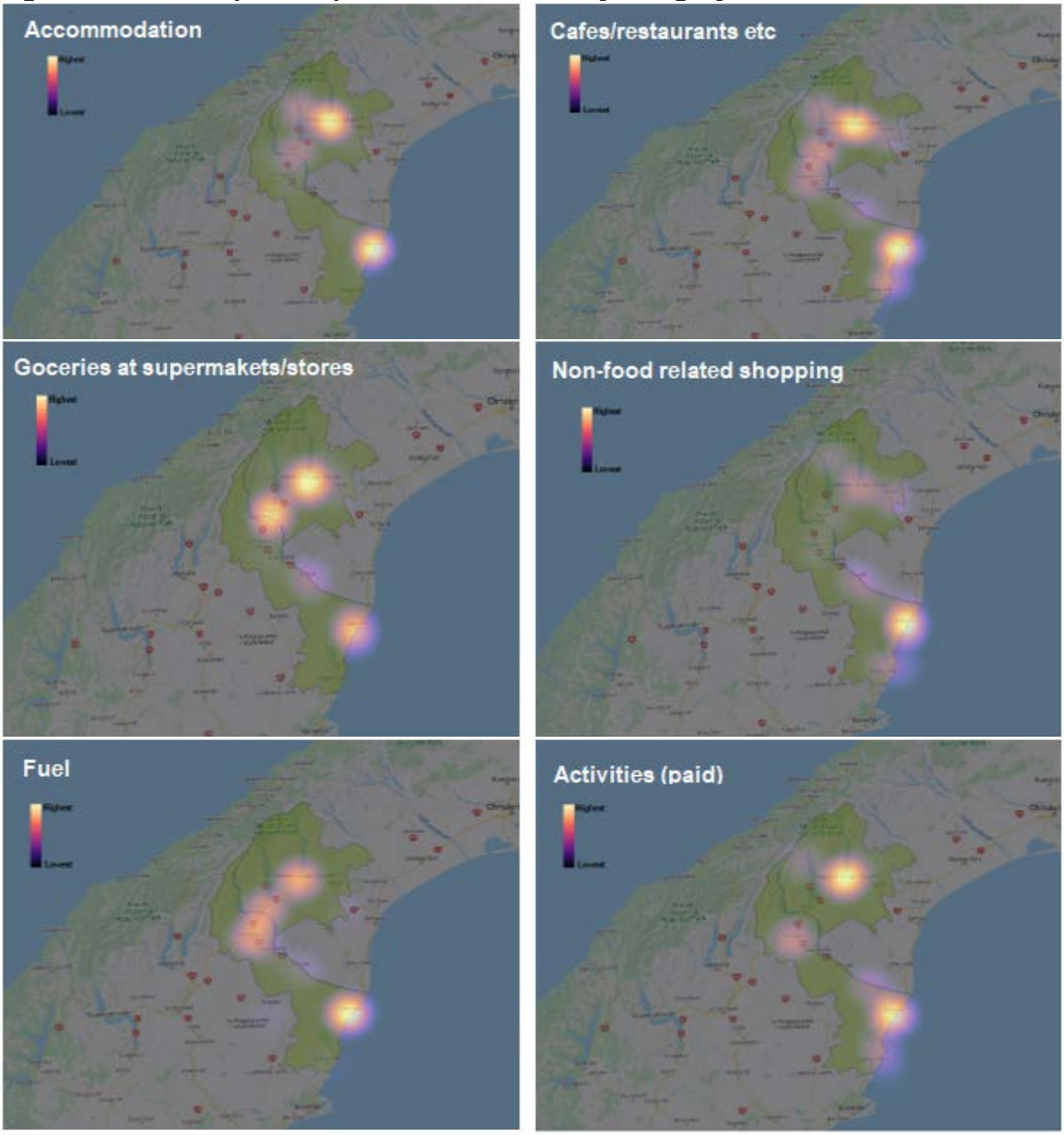
There are some differences in expenditure patterns between the two districts. In both districts, accommodation is the major expenditure item. For the Mackenzie District, this is followed by cafes/restaurants. Whereas, in the Waitaki District, expenditure on activities is second (Table 10). The average expenditure on accommodation and cafes/restaurants is higher in Mackenzie District. However, the average expenditure on groceries, non-food related shopping, fuel and activities is higher in Waitaki District. On the other hand, the overlapping confidence intervals suggest the differences in expenditures between the two districts are not significant across all categories. Comparison of expenditure categories within each district shows that for the Waitaki District, expenditure on accommodation is not significantly more than for activities or for non-food shopping, but significantly higher than expenditure on cafes/restaurants, groceries and fuel. In the Mackenzie District, expenditure on accommodation is not significantly more than at cafes/restaurants but is significantly higher than expenditure on groceries, non-food shopping, fuel and activities.

Table 10: Average expenditure per category

	Waitaki District					Mackenzie District				
Expenditure category	**Number of respondents**	**Average expenditure/ visitor/visit**	**Std. Dev.**	**95% CI**		**Number of respondents**	**Average expenditure/ visitor/visit**	**Std. Dev.**	**95% CI**	
Accommodation	49	$211	$183	$158	$263	47	$338	$444	$208	$469
Cafés/restaurants/ bars/takeaways	54	$109	$133	$72	$145	40	$164	$332	$58	$270
Groceries	22	$74	$71	$43	$106	30	$67	$56	$47	$88
Non-food related shopping	15	$124	$184	$22	$225	8	$69	$50	$27	$111
Fuel	31	$89	$56	$68	$110	16	$84	$27	$70	$99
Activities	28	$138	$213	$55	$220	17	$120	$119	$58	$181

Figure 15 illustrates where expenditures were made.

Figure 15: Heat maps of expenditure locations by category



In the Waitaki District, Oamaru was the most common location for all expenditure categories. Omarama came second for fuel and to a lesser extent on activities and at cafes/restaurants. In the Mackenzie District, Tekapo dominated across all expenditure categories, followed by Twizel, for groceries and fuel, and to a lesser extent cafes/restaurants. There was very little expenditure reported in the Waitaki valley between Oamaru and Omarama.

5 Conclusions and recommendation

The main objective of this research was to describe visitors' use and estimate spending attributable to Waitaki Whitestone Geopark, Oamaru Blue Penguin Colony and Dark Sky Project and their economic significance to the local economies. COVID-19 halted data collection, resulting in sparse data.

Results suggest that visitors make a substantial contribution to the local economy, but the closure of individual attractions would have relatively minor impacts on spending in the study area. If any individual attraction closed, most respondents would still visit the Waitaki/Mackenzie area. However, potential changes in time spent in the area and resultant spending changes were not investigated.

Economic attribution model results are extremely tentative due to limited expenditure data and non-representativeness in the sample. More comprehensive sampling would enrich economic attribution model results, enabling the application of input-output (I-O) models to identify the economic significance of each tourist attraction to the local economies in terms of value added and employment. Cost-benefit analysis could compare benefits to local costs (e.g. maintenance costs) to assess whether public sector investments in tourist attractions generate a net benefit to local economies.

Future research would benefit from adopting a sampling scheme that (1) ensures adequate representative responses from each group, and (2) allows identification of the proportions of users in each group.

Our results support further investigation of visitors' spending that is attributable to different tourist attractions. Efficient public sector investments in tourist attractions require good data on where the costs and benefits arise and fall. Our study provides a useful start to this investigation. This kind of research would help in generating new knowledge for guiding councils and central government in identifying the right mix of tourist projects and initiatives to promote, support and invest in. It would also help to identify interventions that could facilitate broader private sector investment in tourist attraction.

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Appendix 1: Waitaki/Mackenzie Questionnaire

Research Information Sheet

Lincoln University,

Faculty of Environment, Society and Design

Waitaki/Mackenzie Visitor/Tourist Attractions Survey 2020

Welcome to the Waitaki/Mackenzie tourist attraction survey. The aim of this survey is to find out how visitors or tourists utilize different attractions in the region.

This research is being undertaken by Dr Lena Mkwara. It is funded by Lincoln University Centre of Excellence, Sustainable Tourism for Regions Landscapes and Communities.

This survey will focus on your travel in the region. You will be asked some questions regarding your travel and spending in the region, your visits to attractions and yourself. The results of this survey may be used to inform management of tourist attractions in the region and elsewhere in New Zealand. The results may also directly contribute to the preparation of future funding proposals.

The results of this survey may be published in journals and conference papers. However, you may be assured of your anonymity in this investigation. There is no connection between the email addresses and the survey responses.

This survey will take approximately 10-15 minutes.

This project has been approved by the Lincoln University Human Ethics Committee. If you have any questions about your participation in this survey, please feel free to contact us. Your assistance in participating in this survey is greatly appreciated.

Thank you.

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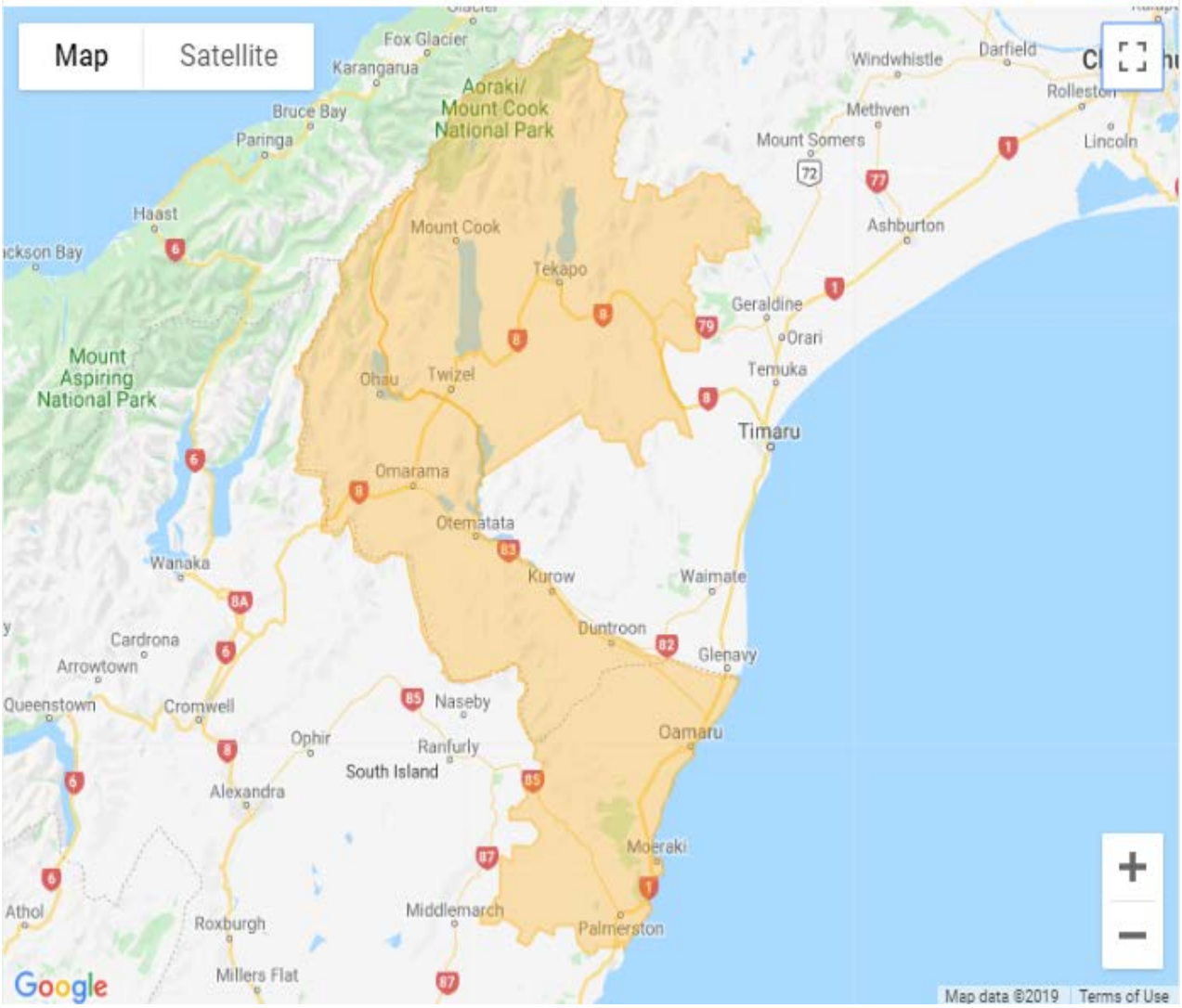
I confirm that I understand the nature of this project and on that basis agree to participate.

- Yes
- No *[TAKEN TO THE END OF THE SURVEY]*

First, we would like to find out a little bit about the people visiting the Waitaki/Mackenzie District, highlighted in the map below.



Q1 Are you aged 16 or over?

- Yes
- No [*TAKEN TO THE END OF THE SURVEY]*

Q2 What is / was the main purpose of your trip to this region?

- Holiday or leisure
- Visit friends or relatives
- Business
- Other. Please specify_____

Q3 Where is your normal place of residence?

- New Zealand
- Overseas

Q4 Please give postcode [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 1 TO Q3]

Q5 Please give country [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 2 TO Q3]

Q6 Where did you start your trip in New Zealand? [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 2 TO Q3]

- Auckland
- Christchurch
- Wellington
- Other. Please specify _____

Q7 On this trip, are you / were you in the region

○ On a trip lasting 1 day or less [TAKEN TO Q9]

○ On a trip with overnight stays

Q8 Number of nights you stayed/intend to stay in the region [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 2 TO Q7]

Travel route

Q9 Please use the interactive map below to show what route you took through the area.

Select the "start" marker and then click on the map to place it

Select the "places I stopped" marker and click on the map at every place you stopped longer than 10 minutes, in travel order

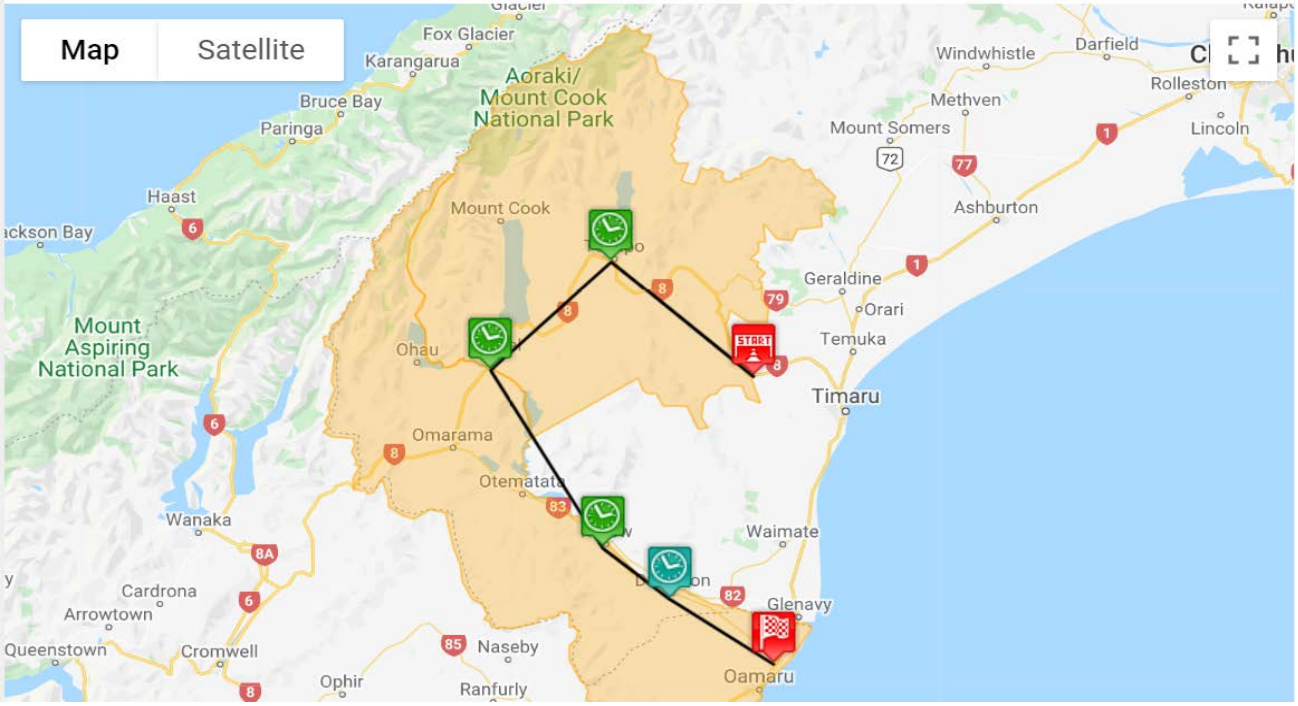
Select the "places I'm planning to stop" marker and click on the map at places you are planning to stop 4

You can drag any marker on the map to move it, or double-click to delete it.

You can drag any marker on the map to move it, or double-click to delete it.

- Where I entered the area
- Places I stopped
- Places I'm planning to stop
- Where I'm planning to exit/exited the area

To search for a location, type it here and select from the list



Q10 Are you sure you have included all your travel /places you plan to stop and exit the area in the map in the previous question?

- Yes
- No. Please list the other places you visited _____
- Not sure

Your recent visit to Waitaki/Mackenzie attractions

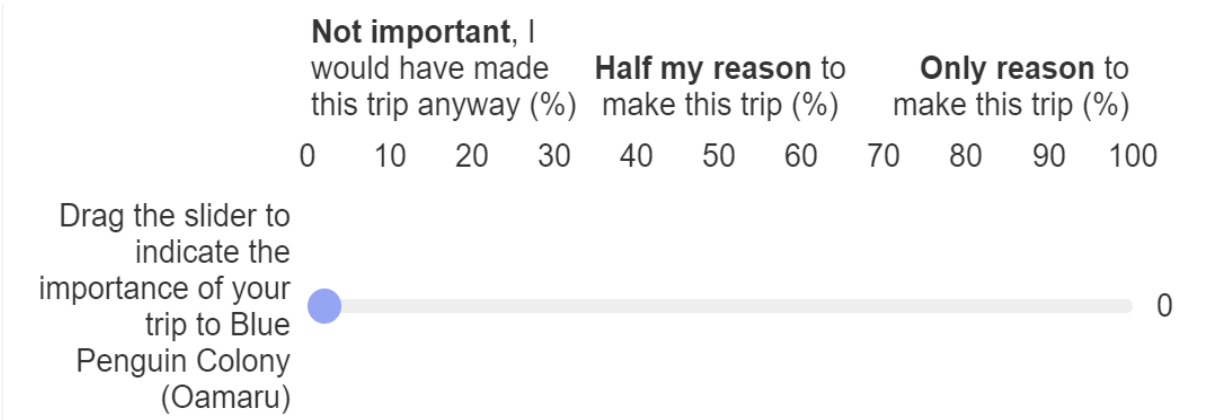
Q11 At which tourist attraction were you approached to do this survey?

- Blue Penguin Colony (Oamaru)
- Elephant Rocks
- Moeraki Boulders
- Clay Cliffs
- Dark Sky (Tekapo)
- Other. Please specify _____

Q12 Which of the following most closely describes your visit to the attraction you chose in Q11 on the day you were approached to do this survey?

- The **ONLY** reason I came to visit the Waitaki/Mackenzie area
- The **MAIN** reason I came to visit the Waitaki/Mackenzie area
- **ONE** of the reasons I came to visit the Waitaki/Mackenzie area
- Just something I was doing because I was visiting the area area
- Other reason - Please specify_____

Q13 How important is / was your visit to the attraction you chose in Q11 on the day you were approached to do this survey? **Drag the slider to indicate the importance of your visit ranging from 0% to 100%.**



Q14 If the attraction you chose in Q11 did not exist, would you have chosen to visit the Waitaki/Mackenzie area anyway?

- Yes
- No

Q15 What would you have done instead of visiting this area? [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 2 TO Q14]

- Stayed at home
- Travelled outside the Waitaki/Mackenzie area. Please specify to where you would have travelled _____

The next questions are about other activities you did or attractions you visited in the Waitaki/Mackenzie District during this visit.
These are grouped as:

- **Commercial**
- **Cultural or historical**
- **Leisure or recreational**

Q16 On this trip, which commercial activities have you undertaken/visited or do you intend to undertake/visit? **Please select all that apply**.

- Winery
- Scenic flight (e.g., fixed wing, helicopter, glider)
- Heli-hike
- Glacier Explorers
- Sir Edmund Hillary Alpine Centre
- Hot Tubs Omarama
- Dark Sky (Tekapo)
- Big Sky Stargazing (Aoraki/Mt Cook)
- None of the above

Q17 On this trip, did you visit or are you intending to visit any of the following cultural or historic sites? **Please select all that apply.**

- Steampunk HQ
- Vanished World Centre
- Kurow Museum and Information Centre
- Aoraki / Mt Cook DOC Visitor Centre
- The Benmore Visitor Centre
- None of the above

Q18 On this trip did you visit or are you intending to visit any of these leisure and recreation sites or activities? **Please select all that apply.**

- Elephant Rocks
- Oamaru Blue Penguin Colony
- Clay Cliffs

- Quailburn Historic Woolshed
- Swimming
- Fishing
- Walking tracks
- None of the above

Q19 Are there any other activities you did in the Waitaki/Mackenzie area during recent visit that are not included in the activities listed in the previous questions?

- No
- Yes, please specify _____

The next questions are about the type of transport and accommodation you used during your Waitaki/Mackenzie district visit.

Q20 What form of transport did you use to get to the area?

- Private vehicle
- Hired vehicle
- Bus
- Bicycle
- Other, please specify_____

Q21 What form of accommodation did you use or intend to use while in this region? Please select all that apply. [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 2 TO Q7]

- Hotel, motel, serviced apartment
- Rented house, apartment, flat or unit (e.g. Airbnb, board, bach etc.)
- Own holiday property
- Property of family or friend
- Caravan or motor home
- Freedom camping vehicle
- Tent or campground cabin
- Back-country hut (e.g. DOC hut, hiking hut etc.)
- Other, please specify _____

The next section is about money you or your travel party spent (or intend to spend if you are still in the area) during this trip.

Q22 Are you or were you part of a packaged holiday organised by a tour operator or equivalent? i.e. accommodation and/or including flights, transport included in the total cost of the package.

- Yes
- No

Q23 Are you or were you:

- Traveling by yourself [TAKEN TO Q28]
- Traveling as part of a group

Q24 **Including yourself**, how many people in your group? Please specify_____

Q25 **Not including yourself**, with how many adults over 16 were/are you traveling?

- 0
- 1
- 2
- 3
- 4
- More than 4. Please specify_____

Q25 With how many **children** under 16 were / are you traveling?

- 0
- 1
- 2
- 3
- 4
- More than 4. Please specify_____

Q26 Which of these options would you prefer?

- Answer about your group's expenditure
- Answer about your personal expenditure only

Q27 Including yourself, how many people did you pay for on this trip for your group? [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 1 TO Q26]

Please specify_____

Q28 How much did pay for your group/ personal package? [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 1 TO Q22]

Please specify in $NZ _____

Q29 In addition to the tour package, did you spend any additional money on each of the following? **Please select as many as apply.** [ONLY ASKED OF THOSE PEOPLE WHO ANSWERED OPTION 1 TO Q22]

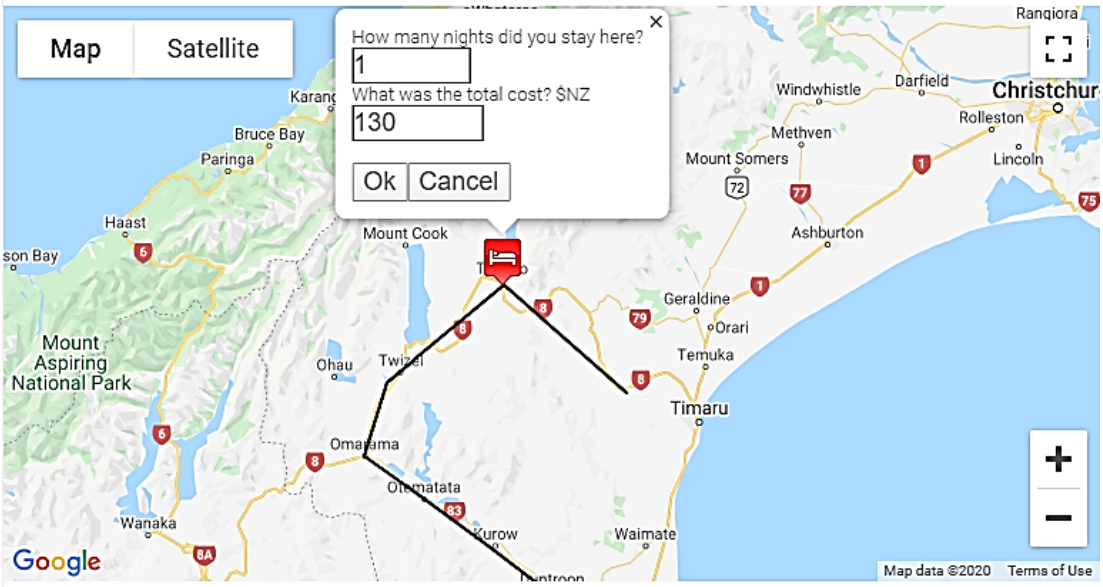
- Accommodation
- Cafes/restaurants/bars/takeaways
- Groceries at supermarkets or stores
- Fuel
- Activities (paid or free)
- Other shopping (excluding food)
- Other local transport
- Other (e.g. conference fees, medical, vehicle maintenance)
- Did not spend any additional money

Q30. **Your travel route is shown on the map below.**

Step 1: Please select the marker type for each expenditure that apply to you/your travel party or additional expenditure if on a tour package.
Step 2: Click on the map to place the marker at <u>each</u> location of goods or services you purchased.
Step 3: Type your best estimate of the amount spent in NZ$.
Step 4. Click and drag a marker if you want to move it, or double-click on a marker to delete it.

- ● Accommodation
- ○ Cafes/restaurants/bars/takeaways
- ○ Groceries at supermarkets or stores
- ○ Fuel
- ○ Activities (paid or free)
- ○ Other shopping (excluding food)
- ○ Other local transport
- ○ Other (e.g. conference fees, medical, vehicle maintenance)

To search for a location, type it here and select from the list



Q31 Are you sure you have included all your expenditure in the area in the map in the previous question?

- Yes
- No. Please provide your best estimate in NZ$. e.g. accommodation $120 at Tekapo _____
- Not sure

Lastly, there are a few questions about you.

Q32 Are you?

- Male
- Female
- Non-binary
- Prefer not to say

Q33 What is the highest level of education you have achieved?

- No formal qualification
- High School qualification
- Trade qualification
- Degree
- Higher degree
- Other tertiary
- Prefer not to say

Q34 Which of the following categories matches your age?

- 16-19 years
- 20-24 years
- 25-29 years
- 30-34 years
- 35-39 years
- 40-44 years
- 44-49 years
- 50-54 years
- 55-59 years
- 60-64 years
- 65-69 years
- 70+ years
- Prefer not to say

Q35 What is your annual household income before tax?

- Less than NZ$30,000
- NZ$30,001 - NZ$50,000
- NZ$50,001- NZ$70,000
- NZ$70,001 - NZ$100,000
- Over NZ$100,000
- Prefer not to say

Prize draw

Q49 In appreciation for your involvement, we invite you to enter a prize draw to win a NZ$ 250 e-gift card at Kathmandu. Would you like to enter into this draw?

- Yes
- No *[TAKEN TO THE END OF SURVEY]*

Q50 So that your details from this survey remain confidential, you need to click on this link to take you to another site to enter the draw. *[ONLY DISPLAYED TO THOSE PEOPLE WHO ANSWERED OPTION 1 TO Q49]*

End of Survey

We thank you for your time spent taking this survey. Your response has been recorded

Appendix 2: Waitaki/Mackenzie tour operators and visitor centers survey briefing

Lincoln University, Faculty of Environment, Society and Design

Waitaki/Mackenzie Visitor/Tourist Attractions Survey 2020

The aim of this survey is to find out how visitors or tourists utilise different attractions and the amount of money they spend during their visit to the region. The results may be used to inform management of the tourist attractions in the region and elsewhere in New Zealand. The results may also help assess how the tourist attractions contribute to the region's economic development.

This research is being undertaken by Dr Lena Mkwara (a tourism researcher at Lincoln University). It is funded by Lincoln University Centre of Excellence in Sustainable Tourism for Regions Landscapes and Communities.

This project has been approved by the Lincoln University Human Ethics Committee. If you have any questions about this survey, please feel free to contact me or the Head of the Centre.

Our request is that you kindly give one survey card to customers for each of the eight indicated survey days across the summer season. A copy of requested sampling times and days is attached. The survey cards has on-line link to the survey to allow visitors or tourists complete the survey at their own free time. The survey commences from 7 January to 31 March 2020.

While distributing the invitation cards please note that completed surveys can enter the two draws for $250 gift vouchers from Kathmandu®

Your assistance with this survey is greatly appreciated.
In appreciation, a copy of the report will be provided at the end of the research and your contributions to the project will be duly acknowledged.

Thank you very much.

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